

20749

3/103/61/021003/004/008
B116/B209

A theory of one-type coupled .

4) The cross back couplings are the inner and the direct ones

the outer couplings
$$W_{1-} = \frac{W_1 - W_1 L_1 L_2 - L_1}{1 + W_1 L_2} \quad (17)$$

$$W_{1+} = \frac{W_1 + (n-1)L_1}{1 - (n-1)W_1 L_2} \quad (18)$$
 L_2 denotes the transfer

function of cross back coupling, L_1 that of direct cross coupling. The cross couplings forming between identical channels as a consequence of a difference between the output coordinates of the identical units, are termed synchronizing couplings (Fig. 4 - Direct, Fig. 5 - Cross back couplings; the synchronizing coupling with a single transfer function is indicated by a circle with a minus sign). The author shows that the synchronizing cross couplings do not affect the averaged motion. The term "averaging" cross couplings is applied to those cross couplings that are formed through the effect of the sum of all input and/or output coordinates of the identical units. It is shown that the averaging cross couplings have no influence upon the relative motion. Fig. 6. In analogy.

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U/101 61 102, 13 104, 108
210/2049

A theory of one-type coupled

here a circle with plus symbol. If besides plain symmetrical cross couplings also synchronizing and averaging cross couplings appear, it is expedient to reduce all plain cross couplings to synchronizing and averaging. It is shown that direct as well as cross back couplings may be split into a synchronizing cross back coupling with transfer function $-L/n$ and an averaging cross back coupling with transfer function $(n-1)L$. If disturbances appear at the inputs of the identical units, the equivalent disturbance for the averaged motion is determined from the

formula $q_{ik} = 1/n \sum_{j=1}^n q_{ij}$ (32), and that for the relative motion from

the formula $q_{ij} = q_{i1} - q_{1j}$ (33). There are 10 figures and 6 Soviet-bloc references.

SUBMITTED: April 15, 1960

Legend to the Figs and Eqs. u - input, u_{av} - output.

Card 8/8
8

MOROZOVSKIY, V. T. (Moskva)

Complete and partial autonomy of multidimensional linear automatic control systems. Avtom. i telem. 23 no.9:1186-1201
S '62. (MIRA 15:10)

(Automatic control)

MOROZOVSKIY, V.T. (Moskva)

Synthesis of corrective cross couplings in multidimensional
control systems. Izv. AN SSSR. otd. tekhn. nauk. tekhn. kib.
no.3:136-151 My-Je '63. (MIRA 16:7)

(Automatic control)

MOROZOVSKIY, V.T. (Moskva)

Equivalent representation of the generators of autonomous electric power systems in the calculations of static stability.
Izv. AN SSSR. Energ. i transp no.2:220-226 Apr '64.
(IRA 17.5)

MOROZOW, I.K. [Morozov, I.K.]; KIRIUSZOW, A.J.

Versatile automatic control machine. Przegl mech 23 no. 21:627-630
10 N '64.

DUBISKI, S.; MOROZOWA, M.

Case of formation of anti-Kell antibodies. Polski tygod. lek. 8 no.5:
187-188 2 Feb 1953. (CLML 24:5)

1. Of the Institute of Microbiology (Head--Prof. L. Hirszfeld, M.D.)
of Wroclaw Medical Academy and of the Regional Blood Donor Station
(Head--T. Mostowski, M.D.) in Krakow.

MOROZOWSKA, I.

The meteorologic protection of orchards in the United States. p.7.

GAZETA OBSERWATORA. P.I.H.M. Warszawa, Poland. Vol. 12, no. 4, Apr. 1959.

Monthly List of East European Accessions Index (EEAI), LC. Vol. 8, No. 9, September 1959
Uncl.

KHRIPIN, A.G. [Khrypin, A.H.]; BRAGINSKIY, M.A. [Brahins'kiy, M.A.];
BEREZOVSKAYA, M.G. [Berezova'ka, M.H.]; SHIROZOV, B.G. [Shyrozov,
B.H.]; MOROZYUK, M.I.; ROZENBERG, Kh.N.

The ASD-1 unit for drying chrome leather in a dynamic state.
Leh. prom. no.2t21-24 Ap-Je'64 (MIRA 17:7)

MOROZYUK, N.I.

Manufacture of pig leather with improved suede finish. Kozh.-obuv.
prom. 3 no.9:29-31 S '61. (MIRA 14:11)
(Leather)

LIVYY, G.V., kand. tekhn. nauk; KAZARINA, N.N., inzh.; GIL'MAN, B.A., inzh.;
FASTOVETS, O.S., inzh.; MOROZYUK, N.I., inzh.; LITVINOV, Sh.I.,
inzh.; SAGAYDACHNYY, V.G., inzh.; BALAYEV, Ya.V., inzh.;
FITSA, A.S., inzh.

Manufacture of leather for lining and accessories from the
face split of DOL type pigskins. Kozh.-obuv. prom. 7 no.6:
29-32 Je '65. (MIPA 18:8)

3/194/62/000/006/219/232
D256/D308

AUTHOR: Morral, István

TITLE: Transistorized audio-frequency R-C oscillator

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 6, 1962, abstract 6-7-271 i (Rádiótechnika, 1961,
11, no. 12, 357-359)

TEXT: A brief survey of the possible versions of transistorized
audio-frequency oscillators and the difficulties of their realiza-
tion. The difficulties occur in connection with limiting the ampli-
tude. A description is given of a transistorized audio-frequency
oscillator employing a Wien bridge supplied by a battery of 7 V no-
minal voltage. The performance of the circuit is satisfactory up
to 45°C; frequency range: 20 - 20000 c/s; output voltage: 500 mV.
[Abstracter's note: Complete translation.]

Card 1/1

MORRANJAC, M. S.

Biochemical significance of cobalt and its determination in biological material. M. S. Morranjac and B. Medaković. *Acta. Pharm. Jugoslav.* 8, 5-13 (1963) (French summary). The biol. significance of Co and previous methods of its detn. in biol. materials are discussed. Co is estd. by the standard dithionite method and the following method for its detn. is used: The soln. contg. Co is evapd. to dryness, the residue is dissolved in 2 ml. of concd. HNO_3 , evapd., and the residue is dissolved in 10 ml. of H_2O contg. 0.5 ml. of 1:1 HCl and 0.5 ml. of 1:1 HNO_3 . This soln. is boiled for a few min. and 2 ml. of 0.1% of nitroso-R salt is added. Two g. of AcONa is added to bring pH to 5.5, the soln. boiled for 45 sec., and 1.5 ml. of concd. HCl added. The color is detd. colorimetrically. 18 references. V. Mihaljov

(2)

KORREN, L., professor.

The international normalization of auxiliary equipment for
fluorescent lamps. Svetotekhnika 3 no.6:8-10 Je '57. (MIRA 10:7)

1. "redsedatel' podkomiteta" MKA. 2. Tsentral'naya elektro-
fizicheskaya laboratoriya Bel'giyskogo elektrotekhnicheskogo
komiteta.

(Fluorescent lamps)

HERAK, M.J.; MORRIS, D.F..

Neutron activation analysis of traces of palladium, gold, and
iridium in supernates from the refining of precious metals.
Groat chem acta 36 no.2:67-71 '64.

1. Department of Chemistry, Brunel College, London, W. 3, Eng. land.
2. Permanent address: Institute "Ruder Boskovic", Zagreb, Croatia
Yugoslavia (for Herak).

~~MORRIS, G.~~; DEBAKEY, M.E.; CRAWFORD, E.S.; COOLEY, D.A.

Surgical treatment of hypertension in occlusion of the renal vessels.
Vest. khir. 85 no. 8:13-23 Ag '60. (MIRA 14:1)
(HYPERTENSION) (RENAL ARTERY—SURGERY)

RYKOWSKI, Henryk; MORRIS, G., Jr.

Surgical treatment of hypertension caused by stenosis or obstruction of the renal artery. Pol. tyg. lek. 19 no.24: 899-902 8 Ja '64.

1. 7 Oddzialu Chirurgicznego Uniwersytetu Baylor Houston St. Tiedn (kierownik: prof. dr M.E. Le Bahey).

GAWFND-DZIERZYNSKA, Irena, TOWPIK, Josef, MORRIS, Wanda, GUZIKOWSKA, Maria

Level and retention in the blood of domestic procaine penicillin.
Polski tygod. lek. 13 no.16:591-596 21 Apr 58

1. (Z Zakładu Antybiotyków P.Z.H.; i z Instytutu Dermatologii i Wenerologii
w Warszawie) Adres: Warszawa, ul. Chocimska 24. Zakład Antybiotyków
P.Z.H.

(PENICILLIN, rel. cpds.

procaine penicillin, level & retention in blood (Pol)

CHELNOKOVA, A.A.; MORRISON, Z.N. (Saratov)

Diagnosis of subacute phlegmon of the stomach. Klin.med. 37 no.11:
119-121 N '59. (MIRA 13:3)

1. Iz kafedry rentgenologii i radiologii (zaveduyushchiy - prof. V.N. Shtern) Saratovskogo meditsinskogo instituta (direktor - dotsent B.A. Nikitin) i pervoy klinicheskoy bol'nitsy imeni V.I. Lenina (glavnyy vrach P.N. Filippenko).

(STOMACH diseases)
(PHLEGMON diagnosis)

MORROVSKIY, N.F.; REGEL', A. R.

Extension (to t)

Connection between changes in density and electro permeability when melting substances having a diamond-type or zinc blende-type structure. N.F. Morrovskiy and A.R. Regel'. Zhur. tekhn. fiz. No 22, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952, Unclassified

Morse, Marston. L-S-homotopy classes of locally simple curves. Ann. Soc. Polon. Math. 21 (1948), 236-256 (1949).

The concepts of locally simple curve and angular order of a plane curve have been introduced by Morse and Heins [cf. Proc. Nat. Acad. Sci. U. S. A. 31, 299-301, 302-306 (1945); these Rev. 7, 57]. The L-S-homotopy classes are defined by admitting only deformations for which the deformed curves are in a sense uniformly locally simple. The present paper is concerned with locally simple curves on a closed two-dimensional orientable manifold of finite genus. The author extends the definition of angular order to the case under consideration, there being three essentially different cases according as S is a sphere, a torus, or a surface of genus at least 2. A set M_S of curves on S is a model for the L-S-homotopy classes if no two members of M_S are L-S-homotopic and any sensed locally simple curve is L-S-homotopic to some member of M_S . Models for the L-S-homotopy classes are displayed for all cases, as well as topological invariants numerically characteristic of these classes. In the case of a sphere, an arbitrary sensed simple closed curve and the same curve taken twice form a model, and the angular order is, correspondingly, 1 or 2. Corresponding but more complex results are obtained in the other cases.

G. A. Hedlund (New Haven, Conn.).

Source: Mathematical Reviews, 1950 Vol 11 No. 2

MORSE, MARSTON

2nd

Morse, Marston. Bilinear functionals over CXC. Acta
Sci. Math. Szeged 12, Leopoldo Fejér et Frederico Riesz
LXX annos natis dedicatus, Pars B, 41-48 (1950).

This article is a brief and yet very clear report on the
basic motivation and central results of a program under-
taken jointly by the author and W. Transue. The typical
feature of the program is to replace the Vitali variation of
a function $k(x, y)$, used in previous literature in the theory
of bilinear functionals, double Fourier series, and other
problems, by a less restrictive concept of variation due to
Fréchet. This results in improvements over previous results
obtained by various authors.

T. Rado

mw
2nd

Source: Mathematical Reviews, 1950 Vol 11 No. 8

MORSHAKOV, N. (Moskva)

Creators of new equipment. NTO no.7:32-34 Jy '59.

(Machine tools--Design)

(MIRA 12:11)

MORSHAKOV, N.

Socially active plant breeders. MTO no.9:41 8 '59.

(MIRA 13:1)

(Plant breeding)

MORSHCHAGIN, V.F.

Educational significance of work on stockbreeding. Biol. v
shkole no.5:43-46 S-O '61. (MIRA 14:9)

1. Direktor Ramon'skoy sredney shkoly Berezovskogo rayona
Voronezhskoy oblasti.

(Stock and stockbreeding--Study and
teaching)

MORSHCHAKOV, N. A.

Saving of 350,000 roubles during one year on diesel oil.
Elek. i tepl. tiaga 3 no. 8:24 Ag '59. (MIRA 12:12)

1. Starshiy master profilakticheskikh osmotrov Kazakhskoy
dorogi.

(Diesel locomotives)

STEPANOVA, Ye.V.; RADANYAN, A.A.; MORSECHAKOV, Yu., REYTMAN, I.M., redaktor;
SVYATITSKAYA, K.P., redaktor; POLOSINA, A.S., tekhnicheskiy redaktor.

[Catalog of spare parts for oil well drilling equipment] Katalog:
Zapasnye chasti k neftianomu oborudovaniyu. Moskva, Gos.nauchno-
tekhnicheskoe izd-vo neftianoi i gornotoplivnoi lit-ry. Pt.2.
[Equipment for oil well drilling] Oborudovanie dlia bureniia skva-
zhin. Section 3. [Rotors of the closed type] Rotory zakrytogo tipa.
No.3. "Bakineti" B560-Sh8. 1956. 15 p. Section 12. [Screw preventers]
Preventery plashechnye. No.1.PFM-8. 1956. 15 p.; No.2.PFM-12. 1956.
16 p.; No.3. PFM-16. 1956. 16 p. (MLRA 9:5)

1.Soyuznefteburmashremont, Gosudarstvennyy soyuznyy treest.
(Oil well drilling) (Boring machinery)

MORSHCHIKHIN, Vasilii Nikolayevich; SUDAKOV, V.V., red.

[Derivation of the principal mechanical characteristics of concrete under field conditions using radio engineering techniques] Poluchenie osnovnykh mekhanicheskikh kharakteristik betona radiotekhnicheskimi metodami v proizvodstvennykh usloviakh. Leningrad, 1964. 28 p. (MIRA 17:11)

~~MORSHCHIKHIN, Vasil'y Nikolayevich~~; RYNIN, Nikolay L'vovich;
SMIRNOV, N.A., prof., red.; PAPIYEV, V.R., red.izd-va;
BELOGUROVA, I.A., tekhn. red.

[Safety engineering in working with radioactive isotopes
and electronic instruments used in testing building
materials and structures] Tekhnika bezopasnosti pri rabote
s radioaktivnymi izotopami i elektronnyimi priborami, is-
pol'zuemyimi pri ispytanii stroitel'nykh materialov i kon-
struktsii. Leningra, Leningr. dom nauchno-tekhn.propagandy,
1962. 32 p. (Bibliotekha stroitel'ia po tekhnike bezopas-
nosti, no.11) (MIRA 16:6)

(Radioisotopes--Safety measures)

(Electronic instruments--Safety measures)

(Building materials--Testing)

MORSHCHIKHINA, S.
L'VOVA, I., kand. biol. nauk; SAKOVICH, I., studentka; TIKHONOV, N., kand.
biol. nauk; MORSHCHIKHINA, S., biolog.

Biological investigation of the growth and development of cucumbers
on unsheltered ground. Nauka i pered. op. v sel'khoz. 8 no.6:48-51
Je '58. (MIRA 11:6)

1. Moskovskiy ordena Lenina Gosudarstvennyy universitet imeni M.V.
Lomonosova.

(Cucumbers)

BRADLE, V.A.; MORSHCHIKOV, V.D., red.

[For trade-union activist workers about the innovators of
agricultural production] Profaktivu - o novatorakh sel'sko-
khoziaistvennogo proizvodstva. Moskva, Profizdat, 1964.
67 p. (Bibliotekha sel'skogo profsoiuznogo aktivista,
no.1(25)) (MIRA 17:11)

AYZENSHTADT, M.G., glavnyy inzhener; KOESHCHININ, I.P., glavnyy mekhanik.

Calendering parchment. Bun.prom. 22 no.9:30-31 S '53. (MLRA 6:8)

1. Sibirskaya bumashnaya fabrika (for Ayzenshtadt). (Parchment)

MORSHCHININ, S.A.

Innovator of equipment. Kozh. obuv. prom. 5 no.7:42 Jl '63.

(MIRA 16:8)

(Kazan—Fur industry—Equipment and supplies)

USSR/Diseases of Farm Animals. General Problems.

R

Abs Jour: Ref Zhur-Biol., No 15, 1958, 69457.

Author : Morshchinin, V.P.

Inst :

Title : The Use of Acidophilic-Droth Culture for Prophylactic
and Therapeutic Purposes.

Orig Pub: Zhivotnovodstvo, 1957, No 10, 87-88.

Abstract: No abstract.

Card : 1/1

5

MORSECHININ, V.P.

Persist in introducing progressive practices in livestock farming.
Zhivotnovodstvo 20 no.5:90 Ky '58. (MIRA 11:5)

1. Starshiy vetvrach Vetotdela Chelyabinskogo oblastnogo upravleniya
sel'skogo khozyaystva.
(Chelyabinsk Province—Artificial insemination)

KOFNICHININ, V.P.

Use of an acidophilus broth culture in veterinary medicine. Veteri-
naria 35 no.4:66-67 Ap '58. (MIRA 11:3)

1. Glavnyy vetvrach Veterinarnogo otdela Chelyabinskogo oblastnogo
upravleniya sel'skogo khozyaystva.
(Veterinary materia medica and pharmacy)

1. MORSHIN, A. V.
2. USSR (600)
4. Cranks and Crankshafts
7. Technology for measuring number of revolutions of tractor engine crankshafts,
Dost. sel. khoz., No. 10, 1962.
9. Monthly List of Russian Accessions, Library of Congress, February, 1953. Unclassified.

KORSHIN, Aleksandr Vasil'yevich, kand.tekhn.nauk; ZAGORSKIY, G., red.;
PAVLOV A. S., tekhn.red.

[How to determine tractor defects without dismantling]
Kak opredelit' neispravnosti traktorov bez razberki. Moskva,
Mosk.rabochii, 1961. 23 p. (MIRA 15:2)
(Tractors--Maintenance and repair)

ARDASHEV, Gavriil Romanovich; BAZAROV, I.V.; MIKHAYLOV, I.N.; MORSHIN,
A.V.; POLOTSKIY, I.V.; RUDENKO, A.I.; SITNIKOV, A.P.; SPERANSOV, N.N.;
KRYUKOV, V.L., red.; DEYEVA, V.M., tekhn.red.

[Maintenance of tractors and agricultural machinery] Tekhnicheskoe
obsluzhivanie traktorov i sel'skokhoziaistvennykh mashin. Moskva,
Gos.izd-vo sel'khoz.lit-ry, 1961. 470 p.

(MIRA 14:4)

(Tractors--Maintenance and repair)

(Agricultural machinery--Maintenance and repair)

MIKHAYLOV, Igor' Nikolayevich; MORSHIN, Aleksandr Vasil'yevich;
ZAGORSKIY, G., red.; POKHLEBKINA, M., ~~tekh.~~ red.

[Low-temperature catalytic conversions of hydrocarbons]
Nizkotemperaturnye kataliticheskie prevrashcheniya ugle-
vodorodov. Leningrad, 1962. 166 p. (MIRA 15:11)

1. Leningrad. Universitet.

(Catalysis) (Hydrocarbons)

YESKIN, V., traktorist (der.V.Berezovka, Yelovskiy rayon, Permskaya oblast');
ZHDANOVSKIY, N., prof., doktor tekhn.nauk; MORSHIN, A., kand.tekhn.
nauk

Determination of the power rating of an engine. Sel'.mekh.
no.3:35-37 '62. (MIRA 15:3)
(Tractors—Engines)

ARDASHEV, Gavriil Romanovich, kand. tekhn. nauk; MIKHAYLOV,
Igor' Nikolayevich, inzh.; MORSHIN, Aleksandr
Vasil'yevich, kand. tekhn. nauk; SOLODENIKOVA, G.A.,
red.

[Technical maintenance of the machinery and tractor fleet]
Tekhnicheskoe obsluzhivanie mashinno-traktornogo parka.
Moskva, Kolos, 1965. 526 p. (MIRA 18:7)

SMIRNOV, Aleksandr Vasil'yevich; BELORUCHEV, Lev Vladimirovich;
KAPLUN, Ruvim Iosifovich; MORSHEYN, Isaak Mikhaylovich;
TSUKANOV, Vladimir Andreyevich; NACHINKOV, A.D., red.

[Nitriding passivating steels with the use of carbon tetrachloride] Azotirovanie passiviruiushchikhsia stalei s primenieniem chetyrekhkhlorigo ugleroda. Leningrad, 1964. 20 p. (Leningradskii dom nauchno-tekhnikheskoi propagandy. Peredovoi proizvodstvennyi opyt. Seriya: Metallovedenie i termicheskaya obrabotka, no.3) (MIRA 17:7)

MORSHTEYN, O.B.

Production of keramzit concrete beams of bridge seats. Transp.
stroil. 13 no.10:33-37 0 '63. (MIRA 17:8)

1. Glavnyy inzh. Silikatnenskogo zavoda zhelenobetonnykh
konstruktsiy.

MORSIN, S.S.

The Journal of the American Medical Association

1977

Vol. 237, No. 1, January 1977

Morsin, S.S.

MORSIN, S.S.

Life has changed in the village of Shushenskoye. Zemledelie 5
no.12:71-73 D '57. (MIRA 11:1)
(Shushenskoye--Agriculture)

MORSIN, Sergey Sergeyevich; SERGEYEVA, V.S., red.; LAPIDUS, M.A.,
red.; TRUKHINA, O.M., tekhn. red.

[Organization of work on collective farms] Organizatsiia truda
v kolkhozakh. Moskva, Sel'khozizdat, 1962. 85 p.
(MIRA 16:2)

(Collective farms--Management)

MORSIN, Sergey Sergeyevich; MIKAEL'YAN, T.S., red.; SHESHNEVA, E.A.,
tekhn. nauch. zhurn.

[Schools for advanced practices in agriculture] Shkoly peredovogo opyta v sel'skom khoziaistve. Moskva, Izd-vo MSKh RSFSR, 1963. 93 p. (MIRA 16:8)

1. Russia (1917- R.S.F.S.R.) Ministerstvo sel'skogo khozyaystva RSFSR. 2. Zamestitel' nachal'nika Upravleniya nauchnykh uchrezhdeniy Ministerstva sel'skogo khozyaystva RSFSR (for Morsin).

(Agriculture) (Agricultural education)

BARKOVSKIY, N.D.; CHERNYSHOVA, T.A.; MORSIN, V.I.; VSESVYATSKAYA,
N.V.; MEZHIBORSKAYA, S.B.; MISEYUK, K.A.; BOROZDIN, B., red.;
NADEZHDA, A., red.; TELEGINA, T., tekhn. red.

[The organization and planning of credit] Organizatsiya i plani-
rovanie kredita. Moskva, Gosfinizdat, 1962. 298 p.
(MIRA 16:3)

(Credit)

MORSIN, Yu., kapitan 1-go ranga

According to the prescriptions of the ideologist of anticommunism
Kozma. Vooruzh. Sil 46 no.14:81-85 J1 '65. (MIRA 18:1)

AID P - 5507

Subject : USSR/Aeronautics - propaganda
Card 1/1 Pub. 135 - 24/26
Author : Morsin, Yu. M., Major
Title : How the beastly habits of American pilots are cultivated.
Periodical : Vest. vozd. flota, 3, 85-87, Mr 1957
Abstract : A slanderous propaganda article written against the
United States Air Force.
Institution : None
Submitted : No date

MORSIN, Yu. M.

Ideological treatment of personnel in the United States Air Force.
Kryl. rod. 9 no.2:30-31 P '58. (MIRA 11:2)
(United States--Air force)

MORSIN, Yu.M., Kapitan 1-30 range

England's navy. Nov. 1941. 13 no. 3182-85 Mr '65.

(MIRA 12:8)

CHURILIN, Nikolay Erastovich; GLINNER, R.G., nauchn. red.;
MORSINA, L.A., red.

[Handbook on the organization and equipment of the
technological study room in enterprises for the produc-
tion of rubber goods; methodological textbook] Rukovodstvo
po organizatsii i oborudovaniu tekhnologicheskogo kabi-
neta na predpriatiakh po proizvodstvu rezinovykh izdelii;
metodicheskoe posobie. Moskva, Vysshaya shkola, 1965. 74 p.
(MIRA 18:7)

GOTTVAL'D, B. [Gottvald, B.]; MORSKI, Z.; LANG, Z.; SHKOLLOVA, Z.
[Skollova, Z.]

New liquids for hydraulic fracturing of layer and the method
of locating the fracture. Prace ust naft 18:65-67 '61.

L 8712-65 EWT(d)/EWT(m)/FA/T-2/ENP(h)/EWA(w) AFFTC(a)/APGC(a) JKT/LEF
 ACCESSION NR: AP4005893 S/0084/63/000/012/0014/0015

AUTHOR: Morskov, Oleg

8

TITLE: Yesterday, today, tomorrow

SOURCE: Grazhdanskaya aviatsiya, no. 12, 1963, 14-15

TOPIC TAGS: turboprop helicopter, turbojet helicopter, jet helicopter, helicopter, helicopter future, civil air fleet

ABSTRACT: Article gives a brief history of the Soviet civil air fleet and the career of Nikolay Il'ich Kamov, an aircraft designer. He began his career in 1929 at the age of 22. The Soviet civil air fleet consisted of 10 heavy passenger aircraft. These were the German Junkers Ju-13 six-passenger aircraft. There were no passenger aircraft producers in the Soviet Union at that time. The first helicopter of all Soviet production was flown by test pilot Ivan Mikheyev on 25 September 1929. Soviet civil aviation proceeded forward step by step to the point where Soviet aircraft and helicopters are held in high regard throughout the world. Helicopters are a part of Soviet life today. They should attain an even wider use in the near future in such areas as Siberia, Soviet Central Asia,

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L 8712-65

ACCESSION NR: AP4005893

and the Far East. The air speed of these helicopters in the near future will be from 400 to 500 kilometers per hour, owing to the use of turbojet and turboprop engines. Kennov predicts that VOFL aircraft will find ever-increasing application. Orig. art. has: 5 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: AC

NO REF SOV: 000

OTHER: 000

Card 2/2

ACC NR: AN7002378

SOURCE CODE: UR/9013/67/000/000/0000

AUTHOR: Morskoy, O. (Correspondent of novosti press agency)

ORG: none

TITLE: Interview with the Minister of Civil Aviation Ye. Loginov

SOURCE: Pravda ukrainy, no. 9, 10 Jan 67, p. 4, cols. 4-7

TOPIC TAGS: civil aviation service, civil aviation status, civil aviation, civil aviation route

ABSTRACT:

The Soviet Minister of Civil Aviation was interviewed on the occasion of the recent air accord with the United States. He stated that Aeroflot flies regularly to 39 countries, and that the length of domestic and international air routes exceeds 500,000 km. Regarding aircrew training, it is basically the same for crews on domestic as well as on international routes. However, crews on international routes must know the characteristics of air movements on their particular routes. In addition, they learn one of the foreign languages needed to talk with ground installations. The stewardesses are mainly from 20 to 28 years of age, and as a rule have higher education. At present, there are four types of Soviet gas-turbine aircraft on international routes. The principle of their use is the same as on domestic

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NR: AN7002378

routes. Over distances of 2000 km, the small TU-124 turbojet is used. It flies to the nearest Soviet countries and to certain Scandinavian countries. On routes to 5000 km, such as to Paris and London, use is made of the TU-104 turbojet and the IL-18 turboprop. On transatlantic routes, the 170-seat TU-114 turboprop is used, and it flies nonstop to Cuba, Canada, and India. The latter will be used on the USSR-USA route; however, it will soon be replaced by the 186-seat IL-62 jet. The minister thinks that the future use of such supersonic airliners as the TU-144 will be worthwhile. After stating that Aeroflot is constantly lowering its fares on domestic routes, but cannot do so on foreign flights due to international agreement, the Minister said that the total volume of traffic in 1967 will increase by about 15%, and that this will also be reflected in Aeroflot's international activity; recently 4—5 new foreign routes were opened, and no less will be established in 1967. After saying that many Latin American countries hope to have direct flights to and from the USSR, the Minister said that in the last seven years the number of passengers on the international routes of Aeroflot has more than doubled.

SUB CODE: 02/ SUBM DATE: none/ ATD PRESS: 5111

Card 2/2

MALINKOVSKIY, V.V.; KOZLOVA, Ye.D.; MORSKOY, G.I.; KUZNETSOV, G.V.;
KASHAYEV, G.T.

Increasing the yield of wild rose thickets. Trudy VNIVI 8:89-93
'61. (MIRA 14:9)

1. Sel'skokhozyaystvennyy otdel Vsesoyuznogo nauchno-issledovatel'-
skogo vitaminnogo instituta i Shchelkovskiy i Ufinskiy vitaminnyye
zavody.

(Roses)

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R001135310011-5

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R001135310011-5"

USPENSKIY, B.D., doktor fiz.-mat. nauk, prof.; BELOUSOV, S.L., kand.
fiz.-mat. nauk; PYATYGINA, K.V.; YUDIN, M.I.; MERTSALOV,
A.N., kand. fiz.-mat. nauk; DAVYDOVA, O.A.; KUPANSKAYA,
A.P.; PETRICHENKO, I.A.; MORSKOV, G.I.; TOMASHEVICH, L.V.;
SAMOYLOV, A.I.; RLOVA, Ye.I.; DZHORDZHIG, V.A.; PETRENKO,
N.V.; DUBOVYI, A.S.; ROMOV, A.I.; PETROSYANTS, N.A.; GLAZOVAYA,
S.P.; BATYAYEVA, T.F.; BEL'SKAYA, N.N.; CHISTYAKOV, A.D.;
GANDIN, L.S.; BURTSEV, A.I.; MERTSALOV, A.I.; BAGROVYI, N.A.;
BELOV, P.N.; ZVEREV, A.S., retsenzent; SIDENKO, G.V., kand.
red.; DUBENTSOV, V.K., kand. fiz.-mat. nauk, nauchn. red.;
SAGATOVSKIY, N.V., red.; BUGAYEV, V.A., doktor geogr. nauk,
prof., red.; ROGOVSKAYA, Ye.G., red.

[Manual on short-range weather forecasts] Rukovodstvo po
kratkosrochnym prognozam pogody. Leningrad, Gidrometeoizdat.
Pt.1. Izd.2., perer. i dop. 1964. 519 p. (MIRA 18:1)

1. Moscow. Tsentral'nyy institut prom. zov.

MORSKOY, G. I., kandidat fiziko-matematicheskikh nauk

Convection theory of atmospheric pressure changes. *Metero. i
gidrol. no. 1:10-16 Ja '53.* (MIRA 8:9)

1. Tsentral'nyy institut prognozov, Moskva.
(Atmospheric pressure)

MORSKOY, G. I.

"Problem of the Calculation of the Vertical Velocity of Air".
Meteorologiya i Gidrologiya, No 1, pp 11-17, 1954.

The article possesses a purely theoretical character. For minimum simplifying assumptions, the author derives an equation for the determination of vertical velocity from the equation of motion and continuity. This equation is an equation in partial derivatives of the first order. It is analyzed under two conditions: (1) Qualitative analysis -- The author enumerates and analyzes the influence on vertical currents of seven factors: local variations in vortex, advection of vortex, meridional gradient of Coriolis force, turbulent friction, local variations in density, and vertical gradients of wind velocity and of orography. (2) Evaluation of the orders of magnitude of the various terms -- This evaluation, conducted on the basis of classical Friedman-Hesselberg tables, reduces to a conclusion concerning the identical order of magnitudes of terms of the mentioned equation. A more detailed analysis of the orders of magnitudes which was carried out by M. I. Yudin (Tr. GI. Geofiz. Observ., No 33 (95), 1952, led him to conclude that in the left part of the equation the decisive role is played by the terms that contain the vertical gradient of the vertical velocity.

For one extremely particular example, solutions are given yielding equations in partial derivatives of the first order. (RZhMekh, No 10, 1955)

SO: Sum No 884, 9 Apr 1956

MORSKOY, G. I.

"Application of Extrapolation to the Forecasting of Circulational Conditions in the Atmosphere".
Trudy Tsentr. in-ta prognozov, No 35, pp 27-40, 1954.

Solution of differential equations with constant coefficients which are constructed for the pressure of the air is sought by the author in the form of a certain double Fourier series involving the Legendre polynomials as coefficients. Considering the baric field at sea level and assuming the coefficients of expansion in spherical functions possess a secular (annual) behavior, the author expounds a method for determining the necessary parameters. On the basis of data for one year from 9 May 1950 to 8 May 1951 he studies 24 coefficients. The author evaluates the proposed method as the most effective procedure for testing and applying in practice the results of long-range forecasting theory. (RZhGeol, No 9, 1955)

SO: Sum No 884, 9 Apr 1956

MORSKOY, G. N.

V' Bagrov, N. A. and Morskoi, G. N., Metod otsenki prognozov. [Method of evaluating forecasts.] *Meteorologiya i Gidrologiya*, Leningrad, No. 4:24-28, July/Aug. 1955. 10 p., 5 tables, 4 refs., 13 eqs. DWB- The alternative method with a given tolerance of evaluating quantitatively the accuracy of a forecast is criticized. Instead, the author proposes a method of evaluation in which the value of the forecast should be a function of the forecast error. The formula developed for evaluation of the forecast is given. The method is illustrated. Subject Headings: 1. Forecast errors. 2. Forecast verification. 11.1.

2

WJ

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6,
p 60 (USSR) 14-57-6-12084

AUTHOR: Morskoy, G. I.

TITLE: Theoretical Analysis of Synoptic Processes (K postanovke zadachi o teoreticheskom analize sinopticheskikh protsessov)

PERIODICAL: Tr. Tsentr. in-ta prognozov, 1956, Nr 46 (73), pp 3-39

ABSTRACT: An analysis of the results obtained by empirical studies of pressure changes at different altitudes has shown that the atmospheric layers lying higher than the homogeneous atmosphere exercise greater influence on the pressure change in the troposphere than do the troposphere layers themselves. About 30 percent of pressure changes on earth are caused by occurrences which bring about density change in the layer from 0 to 3 km, 60 percent of pressure changes are caused by

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Theoretical Analysis of Synoptic Processes (Cont.) 14-57-6-12084

factors in the layer lying more than 8 km high, while the layer from 3 km to 8 km affects the pressure changes at the earth's surface in only 10 percent of the cases. Therefore, when the relationship between activities of the low layer (0 to 8 km) and the high layer (above 8 km) is unknown, correct pressure change forecasting for the low layer by analyzing synoptic maps can be accomplished only 40 percent of the time. Statistical analysis of observations has shown that the processes acting in the low and high layers tend to compensate one another. Lack of observational data for the high layer processes has made direct investigations of this zone very difficult; therefore, a study of the relationship between occurrences in the high and low layers is pressingly needed. The "isopycnic law", formulated by Wagner as early as 1910, has been used to establish this link. It states that density is constant and is equal to 525 g/m³ in the homogeneous atmospheric level (8 km) during every season of the year and over every geographical point. Numerous studies have shown that, on the average, this law works very well for both the intermonthly and the interdiurnal density changes. Under a

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Theoretical Analysis of Synoptic Processes (Cont.) 14-57-6-12084

parameter with the latitude is very important. For this reason, pressure falls when the motion is directed to the north and increases when it is to the south (this conclusion, as well as the previous one, is predicated on the isopycnic law). This tends to make ridges and troughs shift from west to east. The author emphasizes that the influence of vertical velocity distribution in the troposphere and the deviation of wind from the geostrophic must be examined together; he further observes that such joint examination will explain cases where a low pressure area is superimposed upon a high pressure area, and vice versa. Entropic factors also receive some attention. A bibliography of 38 titles is included.

A. B.

Morskoy, G.I.
PHASE I BOOK EXPLOITATION

361

Moscow. Tsentral'nyy institut prognozov.

Trudy. vyp. 49: Voprosy dologosrochnykh prognozov (Transactions.
v. 49: Problems in Long-range Forecasting) Leningrad,
Gidrometeoizdat, 1957. 287 p. 1,250 copies printed.

Sponsoring Agency: Glavnoye upravleniye gidrometeorologicheskoy
sluzhby pri Sovete Ministrov SSSR.

Ed.: (title page): Morskoy, G.I.; Ed. (inside book):
Shatilina, M.K.; Tech. Ed.: Braynina, M.I.

PURPOSE: The collection of articles is intended for specialists
in the field of weather forecasting, especially those
interested in long-term prognostication.

COVERAGE: The articles in this collection illustrate the present
position of long-range weather forecasting. The problems
discussed include the formulation of large mid-monthly

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Problems in Long-range Forecasting

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temperature anomalies, the analysis of cycles and anti-cyclcogenesis in meridional circulation and factors causing the appearance of autumnal frosts together with possibilities for forecasting them.

TABLE OF CONTENTS:

→ Morskoy, G.I.; Semenov, V.G.; and Kats, A.L. Formation of Air Temperature Anomalies on Soviet Territory in the Winter Months

3

The authors define the term anomaly (or a larger anomaly) as a departure from a certain average climatological pattern, or, in other words, from the average temperature during a given period. The authors survey the occurrence of mean temperature anomalies during three winter months (December, January, and February) and analyze possibilities of forecasting such anomalies for one month in advance. In general, wide departures

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4

BAGROV, N.A., red.; ~~KORSEVOY, O.I.~~, red.; PISAREVSKAYA, V.D., red.; BRAYNINA,
M.I., tekhn.red.

[Weather forecasting; collection of translated articles] Voprosy
predskazaniia pogody; sbornik perevodnykh statei. Leningrad,
Gidrometeor. izd-vo, 1958. 439 p. (MIRA 11:10)
(Weather forecasting)

3(7)

BOOK EXPLOITATION

SOV/349

Moscow. Tsentral'nyy institut prognozov

Voprosy dolgosrochnykh prognozov pogody (Problems in Long-Range Weather Forecasting) Moscow, Gidrometeoizdat (otd.), 1959. 62 p. (Series: Itg: Trudy, vyp. 85. Errata slip inserted. 900 copies printed.

Sponsoring Agency: USSR. Sovet ministrov. Glavnoye upravleniye gidrometeorologicheskoy sluzhby.

Ed. (Title page): G. I. Morskly; Ed. (Inside book): L. V. Blinnikov; Tech. Ed.: T. Ye. Zemtsova.

PURPOSE: This issue of the Institute's Transactions is intended for scientific research and field workers in meteorology as well as for advanced students in schools of higher education.

COVERAGE: This is a collection of three articles in synoptic and general meteorology. Two of the articles deal with problems concerning the general circulation of the atmosphere while the third discusses the matter of forecasting mean 7-day pressure maps. References accompany each article.

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Problems in Long-Range (Cont.)

SOV/3249

TABLE OF CONTENTS:

Bayev, V. K. On the Theory of the General Circulation of the Atmosphere

The author attempts a theoretical description of the general circulation in the most general statement of the problem. This entails, first of all, the consideration of nonlinear and viscosity members in differential equations, and also the consideration of the nonadiabatic effects which play a basic role in the general circulation of the atmosphere. This work differs from others on the problem insofar as the author pays stricter attention to the dependence of the thermal properties of the underlying surface on geographic coordinates. Computations are introduced to show that temperature in time and space as well as all elements of motion may be determined when the initial distribution of meteorological elements and the heat influx from the Sun, as a function of time, are known. There are 4 references: 3 Soviet and 1 English. 3

Zverev, N. I. Forecasting a Mean AT 500 Seven-day Chart

Since most extended forecasts do not deal with weather conditions to be expected in the week immediately following the date of chart compilation, the author presents a statistical method of compiling mean 7-day charts. The author works on the basic premise that the development of synoptic processes in the future is completely determined by the history of synoptic processes over a given region. There are 7 references: 4 Soviet and 3 English. 27

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MORSKOY, G.I.

Zonal atmospheric circulation. Trudy TSIP no.85:40-63 '59.
(Winds) (MIRA 12:8)

S/050/60/000/010/002/003
B012/B063

AUTHOR: Morskoy, G. I.

TITLE: Experience Gathered With Forecasting on the Basis of H_{500}
Charts of Monthly Means

PERIODICAL: Meteorologiya i gidrologiya, 1960, No. 10, pp. 9 - 13

TEXT: The author points out that the weather service of the USSR has not yet started a systematic compilation of forecasts of the monthly means of the pressure field. In 1957, the author of the present article published (Ref. 6) a theory of the compilation of forecasts. The results of the verification of this theory are given in the present article. First, the author gives a general description of this theory, confining himself to an estimate of forecasts. Some estimates are studied, and their advantages are discussed. At present, the following two estimates are being used:

formula (5): $r = \frac{s}{s + \bar{s}}$, and formula (6): $\rho = \frac{s - \bar{s}}{s + \bar{s}} = 2r - 1$.

s is the total area of the regions where the forecast was found to be

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Experience Gathered With Forecasting
on the Basis of H_{500} Charts of Monthly Means

S/050/60/000/010/002/003
B012/B063

correct with respect to its sign. S is the total area of the regions where this was not the case. In Ref. 3, formula (9):

$$f = e^{-k \frac{\delta^2}{62}}$$

was given for estimating f . This was derived from general conditions. δ is the standard deviation mentioned in Ref. 2. In the present paper, $k = 0.75$ is assumed. The forecasts obtained for one or the other f -value may be seen from a comparison between the actual and prognostic charts of anomalies in February and March, 1955 (cf. Ref. 9). A similar estimate was published in Ref. 1: ✓

formula (10): $\rho = e^{-kz^2}$, where $z = F(A_{\text{actual}}) - F(A_{\text{prognostic}})$, and $F(A)$

is a function of the distribution of the prognostic quantity A . In order that the mean estimate of the random forecasts becomes equal to $\rho = 0.5$, $k = 32.286$ must be assumed. Thus, the authors calculated four estimates for each of the 12 prognostic charts: r , g , f , and ψ . Table 1 gives these values in per cent of the highest estimate:

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Experience Gathered With Forecasting
on the Basis of H_{500} Charts of Monthly Means

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B012/B063

Estimate	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
r	45,2	56,3	75,8	60,8	50,1	61,1	64,9	49,2	54,8	47,0	63,5	73,3	58,5
q	-9,6	12,6	51,6	21,6	0,2	22,2	29,8	-1,6	9,6	-6,0	27,0	46,6	17,0
f	54,4	74,2	71,4	64,5	62,4	73,1	68,8	65,4	63,7	61,0	65,9	64,5	65,8
φ	57,5	63,4	63,5	61,3	58,1	68,0	67,9	59,7	68,6	67,0	68,2	76,7	65,0

This table indicates that these forecasts are undoubtedly more useful than standard forecasts, and all the more compared to random forecasts. This estimate is closely related to that obtained from formula (6). They give only a qualitative estimate of forecasts (with respect to agreement or non-agreement of the signs of anomalies). The error is taken into account in the estimates f and φ . It is pointed out that a certain agreement between all estimates may be assumed in advance. Yet it is so far not possible to specify the advantages of the various estimates. In addition to the estimates for the latitudinal zone of the entire hemisphere (Table 1).

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Experience Gathered With Forecasting
on the Basis of H₅₀₀ Charts of Monthly Means

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estimates are also given for the European part of the Soviet Union and
West Siberia (Table 2). There are 2 tables and 10 references: 9 Soviet.

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MORSKOY, G.I.

Equatorial baric depression. Trudy TSIP no. 97:82-92 '60.

(MIRA 14:3)

(Tropics--Atmospheric pressure)

ZVEREV, N.I.; MORSKOY, G.I.

Analyzing the interaction of the atmosphere and the hydrosphere.
Meteor. i gidrol. no. 5:37-41 My '61. (MIRA 14:4)
(Atlantic Ocean—Ocean temperature)
(Europe, Western—Atmospheric temperature)

MORSKOY, G.I.

Analysis of vorticity advection. Meteor. 1 gidrol. no.10:3-10
.0 '61. (MIRA 14:9)

(Weather forecasting)

S/169/62/000/001/060/083
D228/D302

AUTHOR: Morskoy, G. I.

TITLE: Statistical estimation of the parameters of prognostic equations

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1962, 57, abstract 1B366 (Tr. Tsentr. in-ta prognozov, no. 104, 1961, 118-122)

TEXT: In the example of a prognostic equation for the atmospheric pressure p it is shown that the admissibility of various equations -- which come into being on the derivation of prognostic equations -- depends on the degree to which certain groups of quantities are mutually compensated and on the provision made for the boundary conditions, and not just on the formal calculation of the orders of magnitude. The simplifications involve the necessity of determining the numerical values of the parameters by statistical means.
[Abstractor's note: Complete translation.]

Card 1/1

MORSKOY, G.I.

The Azores-Bermuda anticyclone and atmospheric circulation over
Europe. Trudy TSIP no.108:52-57 '61. (MIRA 14:5)
(Atlantic Ocean—Cyclones) (Europe—Meteorology)

ACC NR: AP6034030

SOURCE CODE: UR/0050/66/000/010/0031/0035

AUTHOR: Morskoy, G. I. (Candidate of physico-mathematical sciences)

ORG: Hydrometeorological Scientific Research Center, SSSR (Gidrometeorologicheskii nauchno-issledovatel'skii tsentr SSSR)

TITLE: Experiment in calculating the advection of the vertical component of eddy velocity

SOURCE: Meteorologiya i gidrologiya, no. 10, 1966, 31-35

TOPIC TAGS: weather forecasting, atmospheric turbulence, eddy velocity, *weather maps, wind velocity*

ABSTRACT: The geopotential H is analyzed on the basis of maps of the 500-mb surface for 15 and 16 April 1958. The expression for the advection of the vertical component of eddy velocity Λ_z is

$$\Lambda_z = a \left(\frac{\partial \delta H}{\partial \theta} \frac{\partial H}{\partial \lambda} - \frac{\partial \delta H}{\partial \lambda} \frac{\partial H}{\partial \theta} \right), \quad (1)$$

where θ is the complement of the latitude and λ is the longitude. The coefficient

$$a = \frac{1}{r^2 \sin \theta},$$

where r is the radius of the earth and l is the Coriolis parameter. At

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UDC: 551.509.313

ACC NR: AP6034030

45°N, $a = 3.27 \times 10^{-10} \text{ cm}^{-2} \text{ sec}^2$. A conversion factor $(0.98 \times 10^6)^2$ is added for conversion to the CGS system, since H is measured in geopotential decimeters. The factor $1/r^2 = 2.458 \times 10^{-10} \text{ cm}^{-2}$ is introduced since, in calculating the Laplacian ΔH the radius of the earth is taken as unity. Λ_ζ has the dimensionality of sec^{-2} . The quantity a , converted to days, is $\tilde{a} = 5.76 \times 10^{-6} \text{ days}^{-2}$. To avoid subjectivity in calculating Λ_ζ , the following scheme was used to analyze the Λ_ζ field. The expression for the H field is expanded into a series in spherical functions

$$H = \sum_{n=0}^{N'} \sum_{m=0}^n (A_n^m \cos m\lambda + B_n^m \sin m\lambda) P_n^m(\theta), \quad (2)$$

where $P_n^m(\theta)$ are the Legendre polynomials. The expansion is limited to the Northern Hemisphere, and the method of summing was determined accordingly. N' was chosen so that the four values of n would correspond to each value of m , the sum $(m+n)$ to be an even number, i.e., $m = 1$ corresponds to $n = 1, 3, 5, 7$, etc. In expansion of (2), the Laplacian for H is of the form

$$\Delta H = \sum_{n=0}^{N'} \sum_{m=0}^n (C_n^m \cos m\lambda + D_n^m \sin m\lambda) P_n^m(\theta), \quad (3)$$

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where

$$C_n^m = -\frac{n(n+1)}{r^2} A_n^m; D_n^m = -\frac{n(n+1)}{r^2} B_n^m. \quad (4)$$

The right-hand side of (1) shows that Λ_c can be calculated graphically by plotting values of ΔH along the $H = \text{const}$ isolines. The coefficients with relatively small values of m and n make the principal contributions when the expression for the H field is expanded. In this case, the H and ΔH fields should have similar configurations (the Jacobian (1) approaches zero). Numerical values were found for Λ_c . Explicit expressions for each term of the right-hand side of (1) were found by differentiating (2) and (3) in respect to λ and θ . These terms were computed for 240 points north of 40°N , spaced every 15° of longitude and 5° of latitude, and the results are charted. A comparison of this chart for 15 April 1958 and one showing the diurnal change in δH from 15 to 16 April 1958 showed very little correspondence of the isolines -- perhaps indicating the poor value of Λ_c as a forecasting factor. The similarity index ρ (the ratio of the difference between the number of points having data of the same sign and the number of points with a different sign to the total number of points) was calculated to obtain an objective evaluation. The index was computed for the zone from 40 to 70°N (7 latitudes) and every 15° along the parallels. Cases in which

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ACC NR: AP6034030

one of the compared quantities vanished (20) were excluded. The signs of $\partial H / \partial t$ and A_c differed at 79 points and were alike at 69 points. Thus $\rho = 10/148 \approx 0.067$. When ρ was calculated from the formula

$$\frac{\partial p}{\partial t} \sim (\rho, H), \quad (5)$$

where p is the pressure at sea level, and the right-hand side of (6) is of the Jacobian type (1), and using the same area and conditions, $\rho = 0.085$. Taking their smallness into account, these values are quite similar. Orig. art. has: 4 figures and 6 formulas. [W.A. 50]

SUB CODE: 04/ SUBM DATE: 20Apr66/ ORIG REF: 005

Card 4/4

MORSKOY, K. (Dneprodzerzhinsk, Dnepropetrovskaya oblast').

At construction sites on virgin lands. Prof.-tekh. obr. 15 no.4:
22 Ap '58. (MIRA 11:5)

1. Direktor stroitel'noy shkoly No.2.
(Kazakhstan—Construction workers)

M/CK > N-1, K.

27-4-15/25

AUTHOR: Morskoy, K., Director of Building School 2 (Dnepropetrovsk Region)

TITLE: On Virgin Soil Developments (Na stroykakh tseliny)

PERIODICAL: Professional'no-Tekhnicheskoye Obrazovaniye, 1958, # 4, p 22 (USSR)

ABSTRACT: The Dnepropetrovsk School has twice helped out in Kazakhstan, once, in 1956, in developing the virgin soil area, and in 1957 in building for the Kokchetav Trust. A group of carpenter-students received 26,888 rubles in wages.

ASSOCIATION: Stroitel'naya shkola No. 2 (Dnepropetrovskaya oblast') (Building School Nr. 2, Dnepropetrovsk Region)

AVAILABLE: Library of Congress

Card 1/1

JEZEWSKI, M.; MORSTIN, T.; WIERZBICKI, M.

On the immersion method of measuring the dielectric permittivity of solids, as compared to other methods. Acta physica Pol 25 no.2:187-192 F '64

1. I Institute of Physics, Academy of Mining and Metallurgy, Krakow.

28 (5)

AUTHORS:

Mortikov, V. D., Prosvirin, V. I.

SOV/32-25-8-33/44

TITLE:

Determination of the Resistance of Plastic Deformation With
the Instrument PMT-3 at Constant Size of Impressions

PERIODICAL:

Zavodskaya laboratoriya, 1959, Vol 25, Nr 8, pp 999-1000 (USSR)

ABSTRACT:

A new method was developed for the determination of the resistance against plastic deformation at a constant size of the impressions (I) to be carried out with the conventional instrument PMT-3. The microhardness of the sample at various stresses (S) is first measured on the indenter. 20-30 and more measurements of the diagonal (D) of the (I) are made and the arithmetical mean value of the (D) of each (S) is being determined. The obtained data is used for making an auxiliary diagram (AD) which illustrate the dependence of (D) from the concerned (S). The (D) of one (I) is then chosen and from the (AD) recorded for the various conditions of the alloys, the value of (S) corresponding to this (D) is determined. The obtained value of (S) serves for the recording of a new function between the (S) and any parameter (temperature, time etc), which characterizes the condition of the alloy. The susceptibility of the investigated alloy to surface strengthening can be evaluated

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Determination of the Resistance of Plastic SOV/32-25-8-33/44
Deformation With the Instrument PMT-3 at a Constant Size of Impressions

from such a group of curves which refer to the volume of the displaced metal, after the disturbance of the coordinates' equidistance. The authors investigated according to this method the heterogenization of the solid solution of the alloy EI617 at a heating to 1200° (during 1, 3, 6, 12, 24, 36, 48 or 96 hours) and the subsequent tempering in water (+ 20°). Various (S) from 20 to 100 g were applied. The measuring results proved that heating to 1200° has a great influence on the strength needed for the formation of a constant plastic deformation of the alloy. A continuous change of the solid solution's condition occurs at high temperatures, as the resistance against plastic deformation changes. There are 4 figures.

Card 2/2

20963

S/197/61/000/002/003/005
B117/B212

18.7520 1145,1555

AUTHORS: Prosvirin, V., Mortikov, V. D.

TITLE: Structure of a compounded solid solution that has been heated to high temperatures

PERIODICAL: Izvestiya Akademii nauk Latvyskoy SSR, no. 2, 1961, 65-70

TEXT: The structure of a solid solution has been investigated on a nickel-base alloy that has been heated to high temperatures and consisted of the following 8 elements: 0.08% C, 14.8% Cr, 1.93% Ti, 1.85% Al, 3.65% Mo, 5.71% W, 0.32% Mn, 0.14% V. All specimens have been annealed at 950°C for 7 hours and subsequently at 850°C for 10 hours. After the treatment the structure of the alloy consisted after such treatment of a solid γ -solution and small amounts of secondary phases. The effect of a continuous heating on the internal structure of the solid solution has been studied at 1200°C in intervals of 1, 3, 6, 12, 24, 36, 48, and 96 hr and at 1300°C in intervals of 1, 3, 6, and 12 hr. The heterogeneity of the solid solution which appeared due to heat treatment has been estimated according to microhardness and the change of the crystal

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lattice parameter. In order to estimate the microhardness, the method of statistical evaluation of measurements has been applied. The microhardness has been measured with an instrument of the type ПМТ-3 (PMT-3) using a load of 50 grams. It has been found that the rules governing the changes of frequency response curves of the microhardness distribution, which are caused by high temperatures, may be observed even in more complicated systems than C - Fe - Cr - Ni. The frequency response curve which characterizes the distribution of the hardness level of the ground state (7 hours at 950°C + 10 hours at 850°C) has a maximum at 385 kp/mm² and represents a normal form of the statistical distribution of levels of microhardness. The heterogeneity of the phases during the ground state of the alloy is characterized by high values on the frequency response curve, which correspond to the maximum of the curve. Heating to temperatures up to 1200-1300°C brings about a softening of the solid solution, and at the beginning of the heating process the frequency response curve will be shifted toward smaller values of microhardness. Heating for more than one hour brought about three characteristic changes of the frequency response curves: 1) Occurrence of a second and a third maximum; 2) change of the curve width; 3) shift of the frequency

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response curve with hardness. The occurrence of several maxima may be explained by the existence of several qualitatively different types of concentration complexes. The change of width of the frequency response curve may characterize the degree of inhomogeneity of the solid solution. A shift of frequency response curves toward higher values of microhardness is connected with a redistribution of alloying elements. While this takes place, conditions are established in certain microvolumes, which are very suitable for the origin and growth of new phase seeds. It has been shown that a number of alloying elements will escape from the solid solution into the zones of origin of concentration complexes if the heating to high temperatures is continuous. The diffusion mobility of these atoms is largely restricted. Their concentration in certain volumes influences the change of the crystal lattice parameter of the basic solution. Measurement of the lattice parameter (K_x) of the solid solution in the alloy to be investigated at 20°C has shown that the maximum value of the parameter corresponds to a heating of one hour at 1200°C, if the main portion of the secondary phase has been dissolved in the solid solution. Any longer heating will bring about a continuous

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decrease of the parameter. It seems that a certain portion of the elements which expand the crystal lattice of the solid solution escape from it and concentrate in zones of accumulation. There are 8 figures and 11 Soviet-bloc references.

ASSOCIATION: Institut avtomatiki i mekhaniki AN Latv. SSR
(Institute of Automation and Mechanics AS Latviyskaya SSR)

SUBMITTED: April 4, 1960

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L 13048-65 EMT(m)/EWA(d)/EWP(t)/EWP(b) Pad ASD(m)-3 MJW/JD/HW/MLK

ACCESSION NR: AT4046836

S/0000/64/000/000/0159/0165

AUTHOR: Prosvirin, V. I.; Mortikov, V. D. 6

TITLE: Variation in properties of alloy EI-617 during prolonged high temperature heating. 10 14

SOURCE: AN SSSR. Nauchnyy sovet po probleme zharoprochnykh splavov. Issledovaniya staley i splavov (Studies on steels and alloys). Moscow, Izd-vo Nauka, 1964, 159-165

TOPIC TAGS: heat resistant alloy, alloy hardness, nickel alloy, alloy plasticity, alloy strength / alloy EI-617 27

ABSTRACT: Most alloys consist of many components, one or more of which may have limited solubility. During high-temperature annealing, however, the excess phases dissolve and unsaturated solid solutions are formed with a uniform chemical composition. During thermal diffusion at temperatures significantly above the solubility limit, stable associations of heterogeneous atoms arise which show a capacity for growth and are not disrupted by the thermal vibrations of the atoms. This high-temperature state formed during annealing or tempering of heat-resistant alloys determines their subsequent serviceability. The present authors therefore investigated the behavior of the solid solution and the thermal variations in the

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properties of alloy EI-617 which contains, besides Ni: 0.08% C, 14.87% Cr, 1.85% Al, 1.93% Ti, 5.71% W, 3.65% Mo, 0.6% Si and 0.14% V. The initial state of the alloy was produced by double annealing: at 950C for 7 hours and at 850C for 10 hours. The high-temperature instability of the alloy was determined by heating at 1200C for 1, 3, 6, 12, 24, 36, 48 and 96 hours, and at 1300C for 1, 3, 6 and 12 hours, after which the samples were tested for heterogeneity of the solid solution under a load of 50 g, as well as from 20 to 100 g. After the samples were hardened at 1190 and 1050C and tempered at 800C (16 hours), the fatigue strength was determined from the time required for failure at 32 kg/mm² and 800C. Analysis of the results showed that high-temperature heating at 1200-1300C produces weakening of the solid solution. The microhardness begins changing after 3-6 hours of heating, when some of the alloying elements pass from the solid solution into the concentration complex formation. This changes the characteristics of the crystal lattice of the basic solid solution. The results of chemical analysis of anode coatings precipitated in electrolyte 18 show that the quantity of concentration complexes in the alloy structure increases in direct proportion to the duration of heating at 1200C, while the chemical composition differs significantly from the phase composition resulting after common heat treatment. The data obtained show continuous growth of the anode coating as time passes. A graph relating the force required to extrude a constant volume of the alloy to the duration of heating at 1200C showed an initial drop in hardness followed by an increase

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to a maximum at about 20 hours. The results of mechanical tests show that when the duration of primary hardening is increased from 2 to 12 hours at 1190C, or up to 5 hours during the second stage of hardening, the ultimate strength is decreased from 115 to 75 kg/mm², the relative elongation drops from 25 to 2%, and the contraction at break changes from 25 to 3-5%. Further prolongation of high-temperature treatment leads to restoration of the mechanical properties of the alloy. A slight increase in impact toughness (0.5 kg-m/cm²) is observed when the duration of heat treatment at 1190C is increased from 2 to 5 hours. The stress-rupture strength drops only 13% when the duration of heat treatment is 96 hours. The relative elongation and contraction decrease continuously as the duration of alloy heating increases. Repeated hardening at 1050C does not restore the properties of the alloy, leading, on the contrary, to further deterioration. Orig. art. has: 8 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 16Jun64

ENCL: 00

SUB CODE: MM

NO REF SOV: 009

OTHER: 000

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